

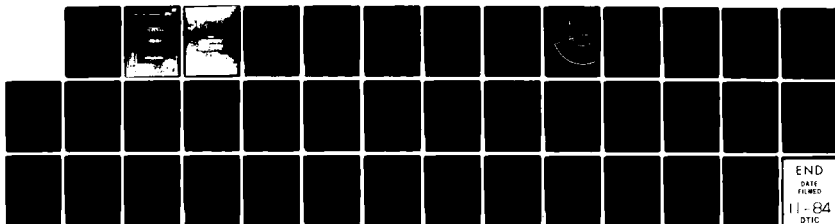
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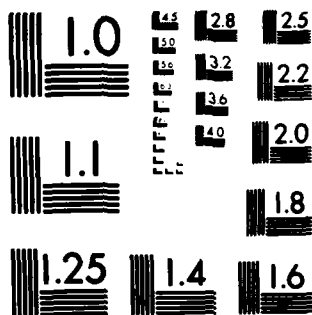
19318B MLRS MISSILE NUMBER 429 381 463 376 417 363
ROUND NUMBER V627/FUE... (U) ARMY ELECTRONICS RESEARCH
AND DEVELOPMENT COMMAND WSMR NM ATM... D C KELLER
AUG 84 ERADCOM/ASL/DR 1352 F/G 4/2

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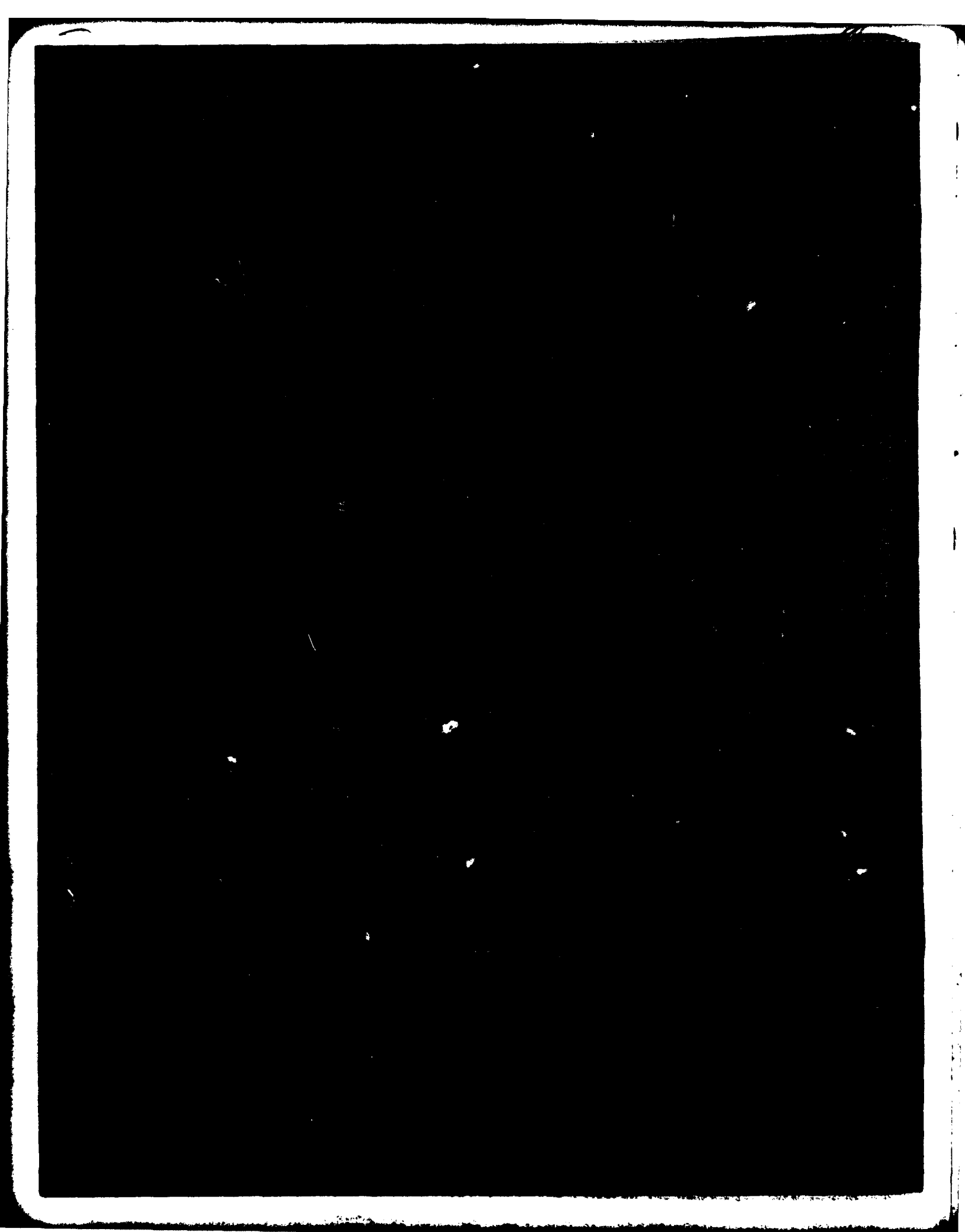
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MICROCOPY RESOLUTION TEST CHART
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AD-A146 531



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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR-1352	2. GOVT ACCESSION NO. <i>A146 531</i>	3. RECIPIENT'S CATALOG NUMBER
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19318 MLRS, Missile Number 429, 381, 463, 376, 417, 363, Round Number V627/FOE-1 THRU V632/FOE-6 are presented in tabular form.		

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INTRODUCTION

193188 MLRS, Missile Numbers 429, 381, 463, 376, 417, and 363, Round Numbers V627/FOE-1 THRU V632/FOE06, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0931:36, 0931:41, 0931:45, 0931:50, 0931:54 and 0931:59 MDT, 17 July 1984. The scheduled launch times were 0930 MDT with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at 7-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

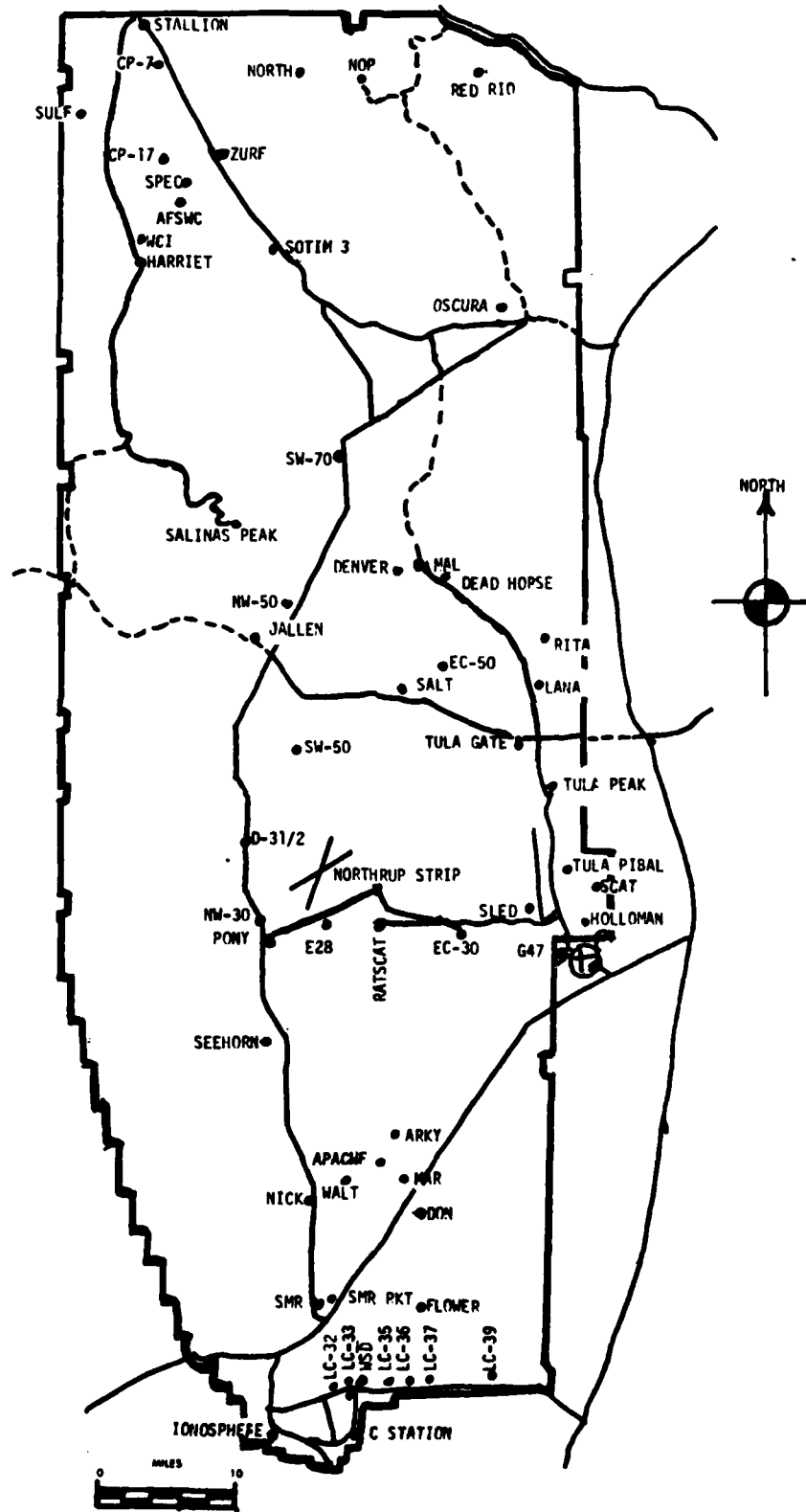
SITE AND ALTITUDE
LC-33 2km

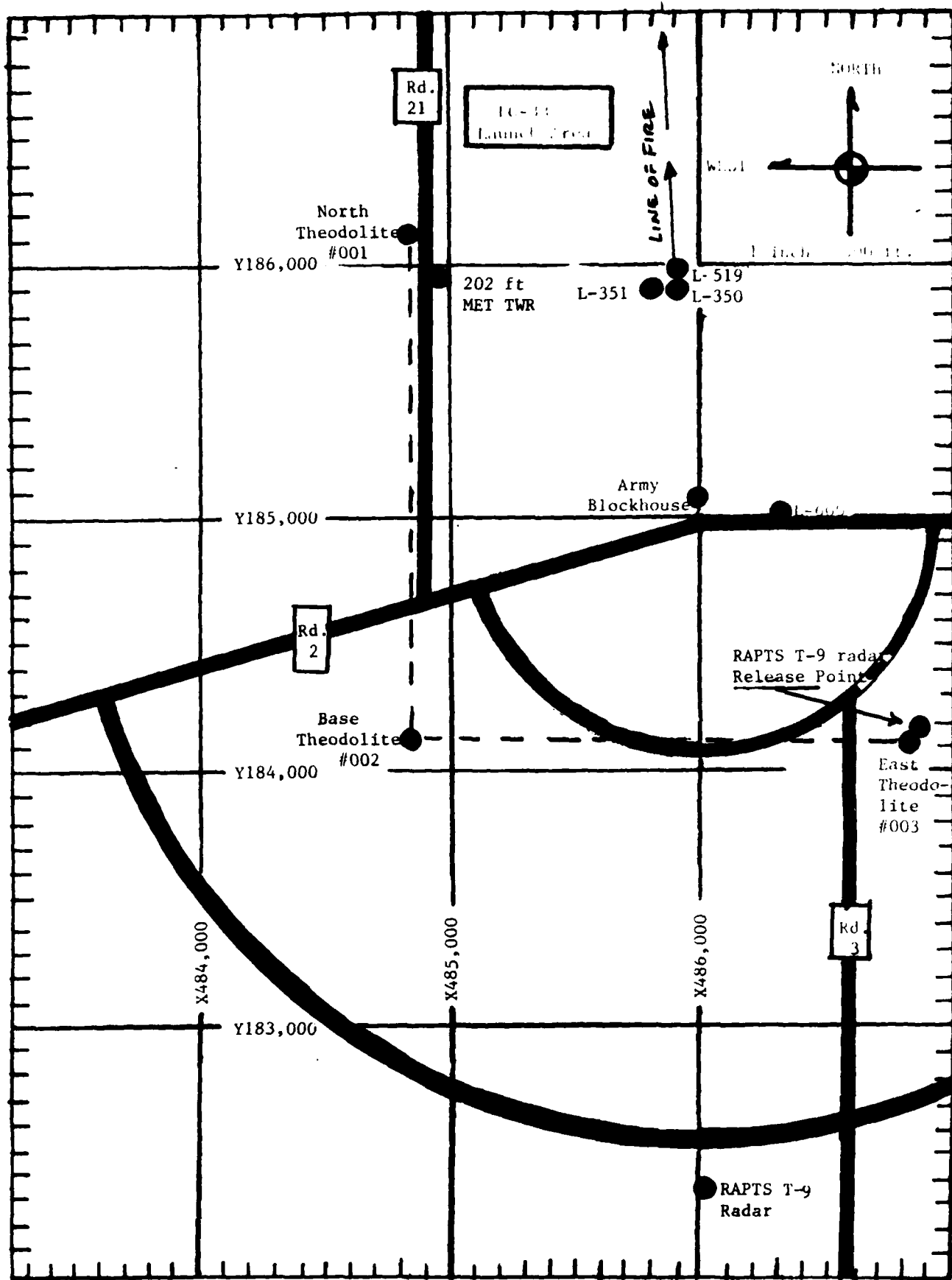
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME
WSD 0800, 0845 and 0930 MDT
SMR 0800, 0845 and 0932 MDT
DON 0800, 0845 and 0930 MDT

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Avail and/or	
Dist	Special
A-1	

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1										STATION LC-33	
DATE 17		JUL		84		X= 484,982.64		Y= 185,957.73		H= 3995.00	
DAY		MONTH		YEAR							
TIME	PRESSURE	TEMPERATURE	DEW POINT	RELATIVE	DENSITY	DIRECTION	WIND	CHARACTER	VISIBIL-		
MDT	mbars	OF	OF	HUMIDITY	gm/m ³	DEGS	SPEED	kts	ITY		
0931	880.2	27.5	15.4	48		060	08		40		

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS				
	1st LAYER		2nd LAYER		3rd LAYER						
	AMT	TYPE	AMT	TYPE	AMT	TYPE					
	2	CU	6500	1	AC	11,000	1	C1	25,000		

PSYCHROMETRIC COMPUTATION

TIME: MDT	0931	
DRY BULB TEMP.	27.5	
WET BULB TEMP.	19.2	
WET BULB DEPR.	8.3	
DEW POINT	15.4	
RELATIVE HUMID.	48	

TABLE 2

LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00 (BASE)

DATE 17 July 1984 0931 M D T

LEVEL #1 12 FT AGL			LEVEL #2 62 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	020	09	T-30	025	09
T-20	019	07	T-20	022	08
T-10	006	06	T-10	022	05
T- 0 (1st T)	006	04	T- 0 (1st T)	008	05
T+10	342	05	T+10	004	05
T+20	354	03	T+20	360	06
T+30	004	02	T+30	357	05
T+40			T+40		
T+50			T+50		
T+60			T+60		
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	022	09	T-30	009	09
T-20	020	07	T-20	004	07
T-10	025	06	T-10	021	08
T- 0 (1st T)	007	04	T- 0 (1st T)	023	06
T+10	001	08	T+10	341	05
T+20	358	07	T+20	351	04
T+30	358	06	T+30	014	06
T+40			T+40		
T+50			T+50		
T+60			T+60		

TABLE 3

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 17 July 1984

SITE: LC-33

TIME: 0931 MDT

WSTN COORDINATES:

X= 486,037.24

Y= 182,350.16

H= 3,977.30

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	060	08
100	MISG	MISG
210	281	04
270	312	09
330	344	06
390	021	08
500	025	04
650	013	08
800	360	08
950	028	06
1100	069	10
1250	090	09
1500	072	12
1750	079	10
2000	057	07

Data obtained from a RAPTS T-9 Radar Tracked pilot- balloon observation

TABLE 4

Aiming and T-Time Computer Met Message Data
17 July 1984

WSD 0800 MDT	SMR 0800 MDT	DON 0800 MDT
METCM1324064	METCM1325064	METCM1326063
171400122880	171400122880	171400123879
00107010 29980880	00018010 29900880	00498004 29740879
01019012 29860870	01008010 29850870	01606008 29660868
02127008 29780845	02046009 29760845	02026002 29680844
03219011 29520807	03214011 29480807	03247009 29490806
04224010 29140761	04223011 29090762	04227011 29110760
05223005 28740718	05222009 28660718	05191008 28710717
06134001 28340676	06041003 28330676	06161002 28370675
07419002 27980637	07126003 28020637	07079001 28070636
08156004 27650599	08107003 27600599	08010002 27660598
09139006 27220563	09127006 27170563	09115003 27260562
 WSD 0845 MDT	 SMR 0845 MDT	 DON 0845 MDT
METCM1324064	METCM1325064	METCM1326063
171480122880	171480122880	171480123879
00053010 30200880	00018010 30320880	00533006 30070879
01008015 29960870	01040011 30050870	01578008 29860869
02085004 29710845	02026008 29800845	02105001 29710844
03201009 29480807	03214007 29510807	03263005 29530806
04207011 29140762	04207012 29130762	04231011 29120760
05184008 28740718	05191008 28750718	05203010 28690717
06151005 28370676	06122003 28350677	06140005 28320675
07008002 28050637	07044001 28010637	07518003 28040636
08102003 27670599	08080002 27630599	08004003 27650598
09129004 27300563	09187004 27170563	09122004 27290562
 WSD 0930 MDT	 SMR 0932 MDT	 DON 0930 MDT
METCM1324064	METCM1325064	METCM1326063
171550122880	171550122880	171550123879
00107006 30390880	00018010 30430880	00533008 30250879
01631010 30180870	01029011 30150870	01614010 30080869
02029008 29800845	02058008 29870846	02620007 29800844
03122008 29410807	03155008 29520808	03178006 29570806
04184010 29090762	04204009 29120762	04204012 29180761
05164008 28710718	05183010 28730718	05174011 28740717
06085005 28350676	06114005 28370677	06095003 28390676
07090003 28060637	07000000 28070637	07108001 28100636
08150004 27620599	08080001 27660599	08563001 27710599
09196005 27270563	09165006 27290563	09196003 27370563

STATION ALTITUDE 2089.00 FEET MSL
17 JULY 84 0800 MDT
ASCENSION NO. 350

SIGNIFICANT LEVEL DATA
1920020380
WHITE SANDS

GEODETTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 5

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
879.6	24.6	14.7	54.0
976.6	23.5	14.2	56.0
950.0	23.2	12.2	50.0
511.9	20.9	8.9	46.0
721.6	16.8	7.7	55.0
732.0	14.1	6.5	60.0
700.0	11.1	7.2	77.0
489.6	9.5	6.6	82.0
480.2	9.1	5.5	78.0
674.8	8.9	2.3	63.0
622.0	8.5	-0.5	53.0
637.0	5.6	-2.0	58.0
628.2	4.8	-1.0	66.0
595.5	2.1	1.2	94.0
555.4	-2.9	-3.3	97.0
548.0	-3.4	-4.1	95.0
538.0	-4.2	-8.8	70.0
530.3	-4.6	-6.6	86.0
514.2	-6.3	-11.8	65.0
500.0	-6.4	-8.5	85.0

STATION ALTITUDE 1949.00 FEET MSL
17 JULY 94 0800 MDT
ASCENSION NO. 1-0

UPPER AIR DATA
1950020350
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SCUND KNOTS	WIND DATA DIRECTION, SPEED DEGREES(TL) KNOTS	INDEX OF REFRACTION
3950.0	879.6	24.6	14.7	54.0	1021.7	674.7	60.0	1.000299
4000.0	879.2	24.5	14.6	54.2	1021.8	674.5	60.2	1.000299
4500.0	864.1	23.4	13.3	53.2	1008.4	673.1	71.5	1.000291
5000.0	849.2	23.2	12.1	49.9	992.1	672.7	84.7	1.000282
5500.0	834.4	22.3	10.9	48.4	978.2	671.6	97.6	1.000275
6000.0	820.0	21.4	9.6	46.9	964.4	670.5	110.0	1.000267
6500.0	805.7	20.4	6.8	47.1	951.0	669.3	120.7	1.000262
7000.0	791.5	19.3	8.5	49.6	937.9	668.0	123.0	1.000258
7500.0	777.6	18.1	8.2	52.1	925.1	666.7	124.7	1.000255
8000.0	764.0	17.0	7.8	54.6	912.5	665.3	125.7	1.000251
8500.0	750.5	15.8	7.3	56.9	900.1	663.9	125.4	1.000247
9000.0	737.1	14.0	6.7	59.1	888.0	662.5	124.9	1.000243
9500.0	724.0	13.4	6.7	64.2	875.7	661.1	120.7	1.000241
10000.0	711.0	12.1	7.1	71.1	863.5	659.8	113.7	1.000239
10500.0	698.2	10.8	7.1	77.8	851.8	658.3	110.5	1.000237
11000.0	685.6	9.3	6.1	80.3	841.1	656.5	115.1	1.000232
11500.0	673.2	8.8	1.9	61.7	828.3	655.5	262.0	1.000218
12000.0	660.9	8.4	-0.6	53.2	815.1	654.8	246.4	1.000216
12500.0	648.8	7.0	-1.3	55.6	804.2	653.1	241.8	1.000206
13000.0	636.9	5.6	-2.0	58.1	793.5	651.4	214.6	1.000203
13500.0	625.2	4.6	-0.7	68.5	781.5	650.4	129.5	1.000203
14000.0	613.6	3.6	0.2	78.3	769.4	649.4	105.5	1.000202
14500.0	602.2	2.7	0.9	88.1	757.5	648.3	82.3	1.000201
15000.0	591.0	1.6	0.7	94.3	746.4	647.0	65.2	1.000199
15500.0	579.9	0.2	-0.5	95.1	736.2	645.3	58.5	1.000194
16000.0	569.0	-1.2	-1.7	96.0	726.2	643.6	66.6	1.000189
16500.0	558.2	-2.5	-3.0	96.8	716.3	642.0	73.5	1.000185
17000.0	547.7	-3.4	-4.2	94.3	705.2	640.8	84.7	1.000180
17500.0	537.3	-4.2	-6.6	71.4	694.5	639.6	93.5	1.000171
18000.0	527.0	-4.9	-7.6	81.8	682.8	638.8		1.000170
18500.0	516.9	-6.0	-10.8	68.6	672.8	637.4		1.000164
19000.0	507.0	-6.4	-10.0	75.1	660.6	637.0		1.000162

STATION ALTITUDE 3949.00 FEET MSL
17 JULY 84
ASCENSION NO. 340

0800 MDT

WAVEWATCH LEVELS
1990020380
WHITE SANDS

GEODETIC COORDINATES
32.4043 LAT DEG
106.37033 LONG DEG

TABLE 7

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FLEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4968.	23.2	12.2	50.	83.5	2.7	
800.0	6694.	20.0	8.6	46.	122.0	10.3	
750.0	6510.	15.8	7.2	57.	125.4	6.6	
700.0	10420.	11.1	7.2	77.	110.3	3.7	
650.0	12436.	7.1	-1.2	55.	242.1	1.9	
600.0	14582.	2.5	1.0	90.	78.6	3.4	
550.0	16871.	-3.3	-3.9	96.	82.3	6.2	
500.0	19331.	-6.4	-8.5	85.			

STATION ALTITUDE 3997.30 FEET MSL
17 JULY 84 0800 MDT
ASCENSION NO. 176

SIGNIFICANT LEVEL DATA
1990060136
S M R

GEODETTIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 8

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
MILLIBARS	MSL FEET	AIR DEGREES	DEWPOINT CENTIGRADE	
979.9	1997.3	24.0	13.8	53.0
872.5	4240.0	23.4	12.4	50.0
850.0	4989.4	23.2	9.9	43.0
790.4	7057.8	19.0	6.8	45.0
729.5	9338.7	13.3	5.7	60.0
700.0	10438.3	10.2	5.8	74.0
674.7	11444.4	9.1	-2.2	52.0
660.3	12031.8	8.4	-1.1	51.0
635.2	13081.1	6.0	-9.9	61.0
600.2	14598.7	1.9	.3	89.0
592.2	14954.8	1.0	.4	96.0
570.8	15926.4	-1.1	-1.5	97.0
552.9	16759.6	-3.9	-4.2	98.0
539.9	17377.6	-4.4	-9.0	70.0

STATION ALTITUDE 2997.30 FEET MSL
17 JULY 84 0800 MDT
ASCENSION NO. 136

UPPER AIR DATA
199006J136
S M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DLGrees CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3997.1	879.9	24.0	53.0	1024.5	673.9	10.0	9.9	1.000296
4000.0	879.8	24.0	53.0	1024.5	673.8	10.1	9.9	1.000296
4500.0	864.6	23.3	47.6	1009.9	672.8	25.4	7.7	1.000284
5000.0	849.7	23.2	43.0	993.5	672.5	49.6	6.4	1.000274
5500.0	834.9	22.2	43.5	979.7	671.2	78.1	6.6	1.000269
6000.0	820.3	21.1	44.0	966.1	670.0	101.1	8.1	1.000264
6500.0	806.0	20.1	44.5	952.7	668.8	119.8	10.2	1.000259
7000.0	792.0	19.1	44.9	939.5	667.6	128.2	12.1	1.000254
7500.0	778.0	17.9	47.9	926.8	666.2	127.7	11.7	1.000251
8000.0	764.2	16.6	51.2	914.3	664.8	125.4	11.2	1.000248
8500.0	750.7	15.4	54.5	901.9	663.4	120.9	10.6	1.000244
9000.0	737.4	14.1	57.8	889.8	661.9	120.7	10.5	1.000241
9500.0	724.2	12.8	62.1	878.0	660.4	123.3	10.5	1.000236
10000.0	711.2	11.4	68.4	866.3	658.8	120.1	8.7	1.000236
10500.0	698.4	10.1	72.7	854.7	657.3	112.7	6.5	1.000233
11000.0	685.8	9.6	61.7	841.5	656.4	89.2	3.3	1.000222
11500.0	673.3	9.0	51.9	828.5	655.5	17.4	2.4	1.000213
12000.0	661.1	8.4	51.1	815.2	654.8	5.1	2.4	1.000209
12500.0	649.0	7.3	55.5	803.4	653.5	13.5	2.3	1.000206
13000.0	637.1	6.2	60.2	791.9	652.2	59.5	2.8	1.000204
13500.0	625.3	4.9	68.7	780.8	650.7	72.1	3.6	1.000203
14000.0	613.8	3.5	78.0	769.9	649.2	73.1	3.9	1.000202
14500.0	602.4	2.2	87.2	759.3	647.7	65.2	3.8	1.000200
15000.0	591.2	.9	96.0	748.5	646.2	54.4	3.6	1.000198
15500.0	580.1	-.2	96.6	737.5	644.9	61.9	4.2	1.000194
16000.0	569.2	-1.3	97.1	726.9	643.4			1.000190
16500.0	558.4	-3.0	97.7	717.8	641.3			1.000195
17000.0	547.8	-4.1	87.1	707.4	639.9			1.000176

STATION ALTITUDE 3997.30 FEET MSL
 17 JULY 64 0800 MDT
 ASCENSION NO. 136

MANDATORY LEVELS
 1990060136
 S W R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

TABLE 10

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4986.	23.2	9.9	43.	48.9	6.4
600.0	6711.	19.7	7.3	45.	125.4	11.4
750.0	8523.	15.3	6.3	55.	120.5	10.6
700.0	10428.	10.2	5.8	74.	113.9	6.8
650.0	12445.	7.4	-1.0	55.	8.8	2.3
600.0	14590.	1.9	.3	89.	63.1	3.7
550.0	16974.	-4.0	-5.1	92.		

STATION ALTITUDE 4003.49 FEET MSL
17 JULY 84
ASCENSION NO. 15

0800 MDT

STATION ALTITUDE DATA
1990200015
DON

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
878.5	4003.7	22.0	15.8	68.0
860.0	4611.2	20.9	13.4	62.0
350.0	4944.9	22.0	13.6	59.0
935.2	5446.8	22.0	10.5	48.0
915.0	6144.7	21.1	8.4	44.0
779.1	7420.0	18.1	7.8	51.0
700.0	10399.1	11.1	5.0	66.0
687.7	10685.6	10.2	4.4	67.0
673.1	11472.1	9.2	.6	55.0
644.9	12636.1	7.7	-2.0	50.0
591.1	14973.9	1.5	.9	96.0
539.1	17393.3	-4.0	-5.8	87.0
519.8	18336.2	-5.5	-8.1	82.0
510.6	18799.8	-5.2	-11.7	60.0
505.7	19049.1	-5.3	-8.0	81.0
500.0	19342.0	-5.9	-9.1	76.0

STATION ALTITUDE 4003.0 FEET MSL
17 JULY 54 0800 MDT
ASCENSION NO. 15

UPPER AIR DATA
1990200015
CON

GEODETTIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
4003.7	876.5	22.0	15.8	68.0	1028.9	671.9	280.0	4.1	1.000308
4500.0	863.4	21.1	13.8	63.1	1015.1	670.6	247.5	1.7	1.000295
5000.0	848.4	22.0	13.3	57.8	994.5	671.6	156.2	2.2	1.000286
5500.0	833.6	21.9	10.3	47.7	978.6	671.1	135.7	4.8	1.000273
6000.0	819.1	21.3	8.8	44.8	964.1	670.2	131.5	7.2	1.000265
6500.0	804.8	20.3	8.3	46.0	950.7	669.0	136.4	8.5	1.000260
7000.0	790.7	19.1	8.0	48.7	937.8	667.7	139.1	9.6	1.000257
7500.0	776.9	17.9	7.8	51.4	925.0	666.4	135.1	10.1	1.000253
8000.0	763.0	16.7	7.4	53.9	912.3	665.0	131.1	10.5	1.000250
8500.0	749.4	15.6	6.9	56.4	899.7	663.6	125.7	10.9	1.000246
9000.0	736.1	14.4	6.5	59.0	887.4	662.3	120.1	10.1	1.000242
9500.0	723.0	13.2	6.0	61.5	875.2	660.9	112.7	8.6	1.000236
10000.0	710.1	12.0	5.4	64.0	862.3	659.5	106.0	7.2	1.000234
10500.0	697.4	10.9	4.9	66.2	851.3	658.1	97.8	6.0	1.000230
11000.0	684.8	9.2	3.7	64.7	838.8	657.0	91.2	4.3	1.000225
11500.0	672.4	9.2	3.6	54.9	826.8	655.8	78.4	2.5	1.000215
12000.0	660.2	8.5	-6	52.7	817.7	654.9	53.6	1.6	1.000209
12500.0	648.1	7.9	-1.7	50.6	800.9	654.1	17.2	1.3	1.000204
13000.0	636.2	6.7	-1.1	57.2	789.2	652.8	6.8	1.4	1.000203
13500.0	624.5	5.4	-2	67.0	778.1	651.4	18.8	1.5	1.000202
14000.0	612.5	4.1	4	76.8	767.2	649.9	26.7	1.5	1.000202
14500.0	601.6	2.8	8	86.7	756.5	648.4	30.2	1.4	1.000201
15000.0	590.5	1.4	9	95.9	746.0	646.9	34.3	1.3	1.000199
15500.0	579.4	3	-5	94.0	735.3	645.5	43.7	1.5	1.000194
16000.0	568.5	-8	-1.9	92.2	724.6	644.0	50.3	1.9	1.000189
16500.0	557.7	-2.0	-3.3	90.3	714.2	642.6	51.7	2.3	1.000179
17000.0	547.2	-3.1	-4.7	88.5	703.8	641.1	48.4	2.7	1.000175
17500.0	536.9	-4.2	-6.1	86.4	693.4	639.8			1.000171
18000.0	526.6	-5.0	-7.3	83.6	682.3	638.8			1.000165
18500.0	516.6	-5.4	-9.2	74.3	670.6	638.2			1.000165
19000.0	506.7	-5.3	-8.7	76.9	657.4	638.4			1.000165

STATION ALTITUDE 4003.64 FEET MSL
17 JULY 84
ASCENSION NO. 15

MANDATORY LEVELS
1990200015
DDM

TABLE 13

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA		
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4941.	22.0	13.6	59.	161.9	2.0	
800.0	6667.	19.9	8.2	47.	137.8	9.0	
750.0	8480.	15.6	7.0	56.	125.8	10.9	
700.0	10389.	11.1	5.0	66.	99.8	6.2	
650.0	12409.	8.0	-1.5	51.	23.8	1.3	
600.0	14559.	2.6	.8	88.	30.7	1.3	
550.0	16850.	-2.8	-4.4	89.	49.1	2.6	
500.0	19315.	-5.9	-9.1	78.			

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
1990020381
WHITE SANDS

STATION ALTITUDE 3959.00 FEET MSL
17 JULY 84 0845 MDT
ASCENSION NO. 381

TABLE 14

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
879.7	3959.0	26.7	14.8	48.0
874.3	4167.2	24.5	13.8	51.0
850.0	4976.8	22.4	12.1	52.0
821.5	5948.9	20.4	9.9	51.0
802.0	6630.9	20.2	8.8	48.0
741.3	9844.0	15.0	6.3	56.0
707.9	10121.3	11.7	5.6	66.0
700.0	10470.3	11.3	6.4	72.0
675.6	11402.4	8.8	5.9	82.0
663.5	11894.7	8.4	1.3	61.0
644.9	12666.4	7.2	-1.7	53.0
608.3	14238.8	3.6	.5	80.0
595.5	14805.9	1.9	.3	39.0
563.7	16257.3	-1.1	-2.8	87.0
549.2	16936.2	-2.1	-7.6	66.0
512.7	18728.6	-5.6	-9.8	72.0
509.1	18910.6	-5.5	-12.4	58.0
502.9	19227.2	-5.6	-7.1	89.0
500.0	19376.5	-5.9	-7.7	87.0

UPPER AIR DATA
190020301
WHITE SANDS

STATION ALTITUDE 2002.00 FEET MSL
17 JULY 94 0845 MDT
ASCENSION NO. 341

GEODETIC COORDINATES
32.40043 LAT DEG
106.77033 LON DEG

TABLE 15

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3900.0	879.7	26.7	48.0	1014.6	677.1	30.0	9.9	1.000297
4000.0	879.4	26.6	48.2	1014.7	676.9	30.2	9.9	1.000297
4500.0	864.2	23.7	51.4	1007.5	673.4	42.3	9.3	1.000289
5000.0	849.3	22.4	52.0	995.0	671.8	58.8	7.3	1.000283
5500.0	834.5	21.3	51.5	981.4	670.5	78.5	7.0	1.000276
6000.0	820.0	20.4	50.8	967.7	669.3	97.3	7.6	1.000269
6500.0	805.7	20.2	48.6	951.5	669.1	112.2	8.8	1.000263
7000.0	791.5	19.3	49.3	937.8	668.0	114.0	9.4	1.000258
7500.0	777.6	18.2	51.1	925.1	666.7	115.2	10.0	1.000254
8000.0	763.9	17.0	52.9	912.5	665.3	113.9	10.2	1.000250
8500.0	750.4	15.8	54.8	900.2	663.9	110.1	9.9	1.000245
9000.0	737.1	14.6	57.4	888.1	662.5	106.3	9.7	1.000241
9500.0	724.0	13.3	61.1	876.1	661.0	105.0	8.7	1.000238
10000.0	711.0	12.0	65.1	864.4	659.5	103.4	7.7	1.000235
10500.0	698.2	11.1	72.7	851.2	658.6	99.5	6.4	1.000235
11000.0	685.6	9.8	77.9	839.6	657.1	91.3	5.0	1.000232
11500.0	673.2	8.7	77.6	827.9	655.7	78.4	3.8	1.000226
12000.0	660.9	8.2	59.9	815.2	654.7	62.1	2.9	1.000213
12500.0	648.9	7.5	54.7	802.9	653.7	36.2	2.5	1.000206
13000.0	637.0	6.4	53.7	791.0	652.5	39.0	2.2	1.000204
13500.0	625.2	5.3	67.3	779.4	651.3	46.8	2.0	1.000203
14000.0	613.7	4.1	75.9	768.0	650.0	53.8	2.1	1.000202
14500.0	602.4	2.6	94.1	757.4	648.5	54.7	3.0	1.000200
15000.0	591.1	1.5	98.7	746.8	646.9	55.2	3.9	1.000197
15500.0	580.1	.6	88.0	735.6	645.7	60.1	4.3	1.000192
16000.0	569.2	-.4	87.4	724.5	644.5	64.9	4.6	1.000188
16500.0	558.5	-1.3	79.5	713.6	643.3	71.9	4.7	1.000182
17000.0	548.0	-2.2	77.7	702.9	642.0	81.6	4.8	1.000174
17500.0	537.5	-3.2	67.9	692.1	640.8			1.000171
18000.0	527.3	-4.2	69.6	681.4	639.6			1.000168
18500.0	517.2	-5.2	71.2	670.9	638.5			1.000165
19000.0	507.3	-5.5	66.8	659.1	638.0			1.000161

STATION ALTITUDE 782.00 FEET MSL
 17 JULY 84 0845 MDT
 ASCENSION NO. 381

MANDATORY LEVELS
 1990020381
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DLG
 106.37033 LON DEG

TABLE 16

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR	DEWPOINT	PERCENT		DIRECTION	SPEED
		DEGREES	CENTIGRADE			DEGREES(TM)	KNOTS
850.0	4973.	22.4	12.1	52.		57.9	7.3
800.0	6696.	20.0	8.8	48.		113.2	9.1
750.0	8511.	15.8	6.7	55.		110.0	9.9
700.0	10420.	11.3	6.4	72.		100.4	6.7
650.0	12439.	7.5	-0.9	55.		39.9	2.5
600.0	14589.	2.5	.4	86.		54.8	3.2
550.0	16881.	-2.0	-7.3	67.		79.6	4.7
500.0	19349.	-5.9	-7.7	87.			

GEODETIC COORDINATES
32.48334 LAT DEG
106.42307 LONG DEG

SIGNIFICANT LEVEL DATA
1990060137
S M R

STATION ALTITUDE 3997.30 FEET MSL
17 JULY 84 0845 MDT
ASCENSION NO. 157

TABLE 17

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
878.8	3997.3	28.0	14.6	44.0
865.5	4439.1	24.1	11.4	45.0
850.0	4958.2	23.4	11.5	47.0
756.7	8254.1	16.4	6.2	51.0
722.1	9557.6	13.4	5.6	59.0
700.0	10415.7	11.2	6.1	71.0
687.6	12905.9	9.5	5.9	78.0
660.2	12014.3	8.2	-5.5	54.0
591.0	14987.7	1.3	-6	95.0
555.8	16605.9	-2.3	-2.7	97.0
544.8	17128.8	-2.5	-5.6	78.0

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

UPPER AIR DATA
1990060127
S M R

STATION ALTITUDE 2097.10 FEET MSL
17 JULY 84 0845 MDT
ASCENSION NO. 137

TABLE 18

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
					KNOTS	KNOTS			
3997.3	878.6	28.0	44.0	1009.3	678.5	10.0	10.0	9.9	1.000225
4000.0	878.7	28.0	44.0	1009.3	678.5	10.0	10.0	9.9	1.000294
4500.0	863.7	24.0	45.2	1006.5	673.6	21.6	21.6	7.4	1.000282
5000.0	848.7	23.3	47.1	991.4	672.8	42.9	42.9	5.4	1.000279
5500.0	833.9	22.2	47.7	977.7	671.5	76.6	76.6	4.8	1.000274
6000.0	819.3	21.2	48.3	964.3	670.3	106.3	106.3	5.9	1.000268
6500.0	805.0	20.1	48.9	951.0	669.0	119.2	119.2	7.7	1.000263
7000.0	790.9	19.1	49.5	938.0	667.7	124.4	124.4	9.5	1.000258
7500.0	777.1	18.0	50.1	925.1	666.4	122.2	122.2	10.6	1.000252
8000.0	763.5	16.9	50.7	912.4	665.1	119.3	119.3	11.3	1.000247
8500.0	750.0	15.8	52.5	899.9	663.8	115.1	115.1	11.4	1.000243
9000.0	736.7	14.7	55.0	887.4	662.5	112.1	112.1	10.7	1.000240
9500.0	723.6	13.5	58.6	875.1	661.2	109.6	109.6	9.2	1.000237
10000.0	710.6	12.3	65.2	863.1	659.8	107.6	107.6	7.6	1.000236
10500.0	697.9	10.9	72.2	851.5	658.3	105.7	105.7	5.9	1.000234
11000.0	685.2	9.4	76.0	840.7	656.5	92.4	92.4	4.0	1.000230
11500.0	672.8	8.6	65.1	827.8	655.5	58.0	58.0	2.8	1.000220
12000.0	660.5	8.2	54.3	815.1	654.6	34.3	34.3	2.4	1.000210
12500.0	648.4	7.1	60.7	803.2	653.3	8.8	8.8	2.5	1.000208
13000.0	636.4	5.9	67.6	791.5	652.0	26.8	26.8	1.8	1.000207
13500.0	624.7	4.8	74.5	780.0	650.7	62.9	62.9	1.4	1.000205
14000.0	613.1	3.6	81.4	768.8	649.4	56.7	56.7	1.7	1.000203
14500.0	601.8	2.4	88.3	757.7	648.0	51.7	51.7	2.0	1.000201
15000.0	590.7	1.3	95.0	746.8	646.7	47.5	47.5	1.7	1.000196
15500.0	579.6	.2	95.6	735.9	645.3				1.000194
16000.0	568.7	-1.0	96.3	725.2	643.9				1.000190
16500.0	558.0	-2.1	96.9	714.6	642.5				1.000185
17000.0	547.5	-2.5	82.7	702.5	641.9				1.000178

STATION ALTITUDE 3097.30 FEET MSL
 17 JULY 84 0845 MDT
 ASCENSION NO. 177

MANDATORY LEVELS
 1990000137
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

TABLE 19

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
950.0	4955.	23.4	11.5	47.		40.4	5.6
800.0	6682.	19.8	8.8	49.		122.5	8.5
750.0	8495.	15.9	6.1	53.		115.1	11.4
700.0	10405.	11.2	6.1	71.		106.1	6.2
650.0	12423.	7.2	-1.1	60.		12.2	2.4
600.0	14569.	2.2	.7	89.		51.1	2.0
550.0	16859.	-2.4	-4.3	87.			

STATION ALTITUDE 4003.69 FEET MSL
17 JULY 84
ASCENSION NO. 10

SIGNIFICANT LEVEL DATA
1990200016
DON

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 20

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
979.5	4003.7	25.0	16.7	60.0
870.7	4260.6	23.2	14.2	57.0
950.0	4949.2	21.6	12.2	55.0
840.5	5270.5	22.7	10.8	47.0
910.7	6300.9	21.1	9.4	47.0
723.4	9499.2	13.1	5.5	60.0
700.0	10405.6	10.7	5.7	71.0
682.3	11106.5	8.8	6.3	84.0
645.8	12600.6	7.2	-1.7	53.0
640.2	12836.4	7.1	-1.8	53.0
610.0	14136.3	3.5	.2	79.0
553.2	16722.9	-2.0	-4.0	86.0
516.6	19506.6	-4.5	-11.5	58.0
502.4	19227.4	-6.0	-8.3	84.0
500.0	19350.8	-6.5	-9.2	81.0

STATION ALTITUDE 4033.65 FEET MSL
17 JULY 84 0845 MDT
ASCENSION NO. 16

UPPER AIR DATA
1900200016
DON

GEOMETRIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 21

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
4033.7	878.5	25.0	16.7	1018.0	675.5	300.0	6.0	1.000306
4500.0	863.4	22.6	13.5	1010.0	672.3			1.000292
5000.0	848.5	21.6	12.0	996.0	671.1			1.000283
5500.0	833.8	22.3	10.5	977.3	671.6			1.000273
6000.0	819.3	21.6	9.8	963.0	670.7			1.000267
6500.0	805.0	20.6	9.2	949.4	669.5			1.000263
7000.0	790.8	19.4	8.6	936.7	668.1			1.000258
7500.0	776.8	18.1	8.1	924.3	666.6			1.000254
8000.0	763.1	16.8	7.5	912.0	665.1			1.000250
8500.0	749.6	15.6	6.8	899.9	663.7			1.000246
9000.0	736.4	14.3	6.2	887.9	662.2	120.6	11.7	1.000241
9500.0	723.4	13.1	5.5	876.2	660.7	118.3	10.4	1.000237
10000.0	710.4	11.8	5.7	864.3	659.2	115.4	9.2	1.000235
10500.0	697.6	10.4	5.8	852.6	657.7	113.2	7.4	1.000233
11000.0	685.0	9.1	6.2	841.0	656.2	110.1	5.5	1.000233
11500.0	672.5	8.4	4.4	828.2	655.2	101.5	3.5	1.000225
12000.0	660.2	7.6	1.8	815.3	654.3	70.8	1.9	1.000215
12500.0	648.2	7.3	-1.1	802.5	653.5	6.7	1.8	1.000206
13000.0	636.3	6.6	-1.4	789.7	652.7	340.5	2.6	1.000203
13500.0	624.6	5.3	-5.5	778.7	651.2	328.4	3.7	1.000202
14000.0	613.1	3.9	1	768.1	649.7	344.5	3.0	1.000202
14500.0	601.7	2.7	-4	756.9	648.3	6.5	2.7	1.000196
15000.0	590.4	1.7	-1.2	745.7	647.0	31.5	2.7	1.000194
15500.0	579.4	.6	-2.0	734.7	645.7	53.2	3.2	1.000190
16000.0	568.5	-5	-2.8	723.9	644.4	62.6	3.6	1.000187
16500.0	557.9	-1.5	-3.6	713.2	643.1	62.1	3.3	1.000183
17000.0	547.3	-2.4	-5.1	702.2	642.0	61.5	3.1	1.000178
17500.0	536.9	-3.1	-7.1	690.9	641.0			1.000173
18000.0	526.7	-3.8	-9.2	679.8	640.1			1.000167
18500.0	516.7	-4.5	-11.5	668.8	639.1			1.000162
19000.0	506.8	-5.5	-9.1	658.2	638.0			1.000163

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4003.69 FEET MSL
17 JULY 84 0845 MDT
ASCENSION NO. 16

MANDATORY LEVELS
1590200016
DCN

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 22

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4946.	21.6	12.2	55.	9999.0	9999.0XX	
800.0	6673.	20.2	9.0	49.	9999.0	9999.0XX	
750.0	8488.	15.6	6.9	56.	9999.0	9999.0XX	
700.0	10395.	10.7	5.7	71.	113.7	7.8	
650.0	12412.	7.4	-6	57.	13.0	1.7	
600.0	14560.	2.6	-5	80.	9.8	2.7	
550.0	16853.	-2.2	-4.6	84.	61.6	3.1	
500.0	19324.	-6.5	-9.2	81.			

AX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3929.00 FEET MSL
17 JULY 84 0930 MDT
ASCENSION NO. 362

SIGNIFICANT LEVEL DATA
1990020362
WHITE SANDS

GEODETTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 23

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
879.7	1989.0	28.7	14.1	41.0
870.3	4301.9	26.5	13.6	45.0
850.0	4983.2	23.4	12.4	50.0
822.1	5935.7	20.0	11.2	57.0
776.0	7565.6	17.5	7.8	53.0
727.1	9382.0	13.4	5.1	57.0
700.0	10430.1	10.9	6.6	75.0
679.7	11235.6	8.6	5.9	83.0
666.8	11757.7	8.8	.3	55.0
651.9	12372.7	8.3	.5	58.0
603.9	14431.1	2.4	.5	87.0
554.3	16694.5	-2.1	-3.8	88.0
543.2	17222.9	-3.3	-7.4	73.0
535.7	17584.5	-4.1	-7.9	75.0
520.5	18330.9	-4.9	-11.4	60.0
512.7	18721.6	-5.2	-7.3	85.0
500.0	19369.6	-6.0	-10.2	72.0

STATION ALTITUDE 3959.00 FEET MSL
17 JULY 84 0930 MDT
ASCENSION NO. 342

UPPER AIR DATA
194020382
WHITE SANDS

GEOPEITIC COORDINATES
32.40043 LAT DEG
106.37033 LGN DEG

TABLE 24

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3939.0	879.7	28.7	41.0	1008.2	679.2	60.0	6.0	1.000292
4000.0	879.4	28.6	41.1	1008.1	679.1	60.1	6.0	1.000292
4500.0	864.3	25.6	46.5	1001.2	675.6	63.5	6.2	1.000288
5000.0	846.5	23.3	50.1	991.7	673.0	66.7	6.4	1.000283
5500.0	834.7	21.6	53.8	980.5	670.9	69.7	6.7	1.000279
6000.0	820.2	19.9	56.8	969.1	669.0	72.4	6.9	1.000274
6500.0	805.8	19.1	55.2	954.9	668.0	75.0	7.2	1.000268
7000.0	791.7	18.4	54.4	940.9	667.0	83.5	7.8	1.000261
7500.0	777.8	17.6	53.2	927.1	666.0	93.5	8.9	1.000255
8000.0	764.0	16.5	54.0	914.2	664.7	99.9	9.9	1.000250
8500.0	750.4	15.4	55.1	901.6	663.4	101.7	10.3	1.000245
9000.0	737.1	14.3	56.2	889.3	662.0	101.7	10.2	1.000240
9500.0	724.0	13.1	59.0	876.9	660.7	96.6	8.5	1.000237
10000.0	711.0	11.9	67.6	864.5	659.4	88.6	7.0	1.000236
10500.0	698.2	10.7	75.7	852.4	658.1	74.9	5.9	1.000232
11000.0	685.6	9.3	80.7	841.2	656.4	56.7	5.3	1.000232
11500.0	673.1	8.7	68.8	829.4	655.5	50.0	4.8	1.000222
12000.0	660.9	8.6	56.2	814.2	655.1	43.2	4.4	1.000211
12500.0	648.8	7.9	59.8	801.1	654.4	46.1	4.1	1.000209
13000.0	636.9	6.5	66.8	790.3	652.7	49.9	3.8	1.000207
13500.0	625.2	5.1	73.9	779.7	651.1	58.1	3.6	1.000205
14000.0	613.7	3.6	80.9	769.3	649.4	67.8	3.5	1.000203
14500.0	602.3	2.3	87.0	759.9	647.8	78.8	3.4	1.000200
15000.0	591.0	1.3	87.3	747.5	646.6	90.4	3.5	1.000196
15500.0	579.9	-.3	87.5	736.3	645.3	99.4	4.0	1.000192
16000.0	569.1	-.7	87.7	725.2	644.1	104.9	4.7	1.000188
16500.0	558.4	-1.7	87.9	714.4	642.9	107.1	5.4	1.000184
17000.0	547.9	-2.8	79.3	704.0	641.4	106.6	6.0	1.000177
17500.0	537.4	-3.9	74.5	693.7	640.0	105.4	6.5	1.000172
18000.0	527.2	-4.5	66.6	682.3	639.2	102.9	7.2	1.000167
18500.0	517.1	-5.0	70.6	670.4	638.6			1.000165
19000.0	507.2	-5.5	73.4	658.7	638.1			1.000164

STATION ALTITUDE 2030.00 FEET MSL
 17 JULY 84 0930 MDT
 ASCENSION NO. 3P2

MANDATORY LEVELS
 1640320362
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 25

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
250.0	4980.	23.4	12.4	50.	66.6	6.4
300.0	6702.	18.8	9.6	55.	76.3	7.3
350.0	8512.	15.4	6.4	55.	101.8	10.4
400.0	10420.	10.9	6.6	75.	77.3	6.0
450.0	12438.	8.1	.6	59.	45.7	4.1
500.0	14586.	2.1	.1	87.	81.1	3.4
550.0	16876.	-2.6	-5.2	82.	106.7	5.8
600.0	19342.	-6.0	-10.2	72.		

STATION ALTITUDE 3997.30 FEET MSL
17 JULY 84 0932 MDT
ASCENSION NO. 118

SIGNIFICANT LEVEL DATA
199006013R
S M R

GEODETTIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 26

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
879.8	29.2	14.2	40.0
872.0	26.3	10.9	38.0
850.0	24.2	10.5	42.0
792.2	19.3	6.8	44.0
731.8	14.0	4.3	52.0
700.0	11.1	5.4	68.0
679.1	9.0	5.7	80.0
600.9	8.7	-1.1	54.0
642.9	7.4	-1.3	54.0
605.6	2.8	-5.5	79.0
589.9	1.8	-2.1	75.0
570.2	-5.5	-2.3	88.0
553.0	-2.1	-4.6	83.0
547.3	-2.2	-6.4	73.0
530.7	-3.8	-9.0	67.0

UPPER AIR DATA
1990060138
S M R

STATION ALTITUDE 2997.30 FEET MSL
17 JULY 84
ASCENSION NO. 112

GEODETIC COORDINATES
12.48034 LAT DEG
106.42307 LON DEG

TABLE 27

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3997.3	879.8	29.2	14.2	40.0	1006.6	679.8	10.0	9.9	1.000292
4000.0	879.7	29.2	14.2	40.0	1006.7	679.7	10.1	9.9	1.000292
4500.0	864.7	25.6	10.8	39.3	1002.6	675.3	23.1	8.5	1.000276
5000.0	849.8	24.2	10.5	42.0	990.1	673.7	39.9	7.7	1.000275
5500.0	835.1	23.0	9.6	42.5	977.1	672.2	59.6	7.7	1.000269
6000.0	820.5	21.7	8.6	43.0	964.3	670.7	74.6	8.1	1.000264
6500.0	806.3	20.5	7.7	43.5	951.7	669.3	86.2	8.1	1.000258
7000.0	792.3	19.3	6.8	44.0	939.3	667.8	96.3	8.1	1.000253
7500.0	778.3	18.1	6.3	45.6	926.5	666.4	105.1	7.9	1.000249
8000.0	764.5	16.9	5.7	47.6	914.0	665.0	111.1	8.4	1.000245
8500.0	751.0	15.7	5.2	49.4	901.6	663.6	113.3	9.7	1.000241
9000.0	737.7	14.5	4.6	51.2	889.4	662.2	111.0	10.3	1.000237
9500.0	724.5	13.3	4.7	55.0	877.1	660.9	107.1	10.6	1.000235
10000.0	711.5	12.2	5.1	62.1	864.7	659.6	100.9	8.8	1.000234
10500.0	696.8	11.0	5.5	68.7	852.6	658.3	91.4	7.1	1.000232
11000.0	686.1	9.7	5.7	75.9	840.7	656.9	77.0	5.9	1.000231
11500.0	673.7	8.9	4.2	72.3	828.2	655.8	63.6	4.8	1.000224
12000.0	661.4	8.7	.1	54.8	814.6	655.2	55.0	3.2	1.000211
12500.0	649.4	7.9	-8	54.0	802.3	654.2	43.4	1.6	1.000206
13000.0	637.5	6.7	-1.0	57.5	790.7	652.9	315.7	.4	1.000204
13500.0	625.7	5.3	-6	65.3	780.0	651.2	307.6	.5	1.000202
14000.0	614.2	3.9	-5	73.1	769.5	649.6	342.7	.6	1.000201
14500.0	602.8	2.6	-8	78.3	758.8	648.1	54.9	1.3	1.000198
15000.0	591.6	1.9	-2.0	75.4	746.8	647.2	68.8	2.5	1.000193
15500.0	580.6	.7	-2.2	81.1	736.1	645.8	79.2	3.8	1.000190
16000.0	569.7	-1.6	-2.4	87.9	725.8	644.2	85.1	5.0	1.000188
16500.0	558.9	-2.2	-3.8	84.7	714.7	643.0	93.5	5.4	1.000183
17000.0	548.4	-2.2	-6.0	74.9	703.1	642.2			1.000177
17500.0	538.0	-3.1	-7.8	69.6	692.3	641.0			1.000172

STATION ALTITUDE 3947.30 FEET MSL
 17 JULY 84 0932 MDT
 ASCENSION NO. 17E

MANDATORY LEVELS
 1990060138
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LONG DEG

TABLE 28

PRESSURE GEOPOTENTIAL MILLIBARS	FEE	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4991.	24.2	10.5	42.	39.6	7.7
800.0	6720.	20.0	7.3	44.	91.2	8.2
750.0	8533.	15.6	5.1	50.	117.4	9.8
700.0	10441.	11.1	5.4	68.	92.7	7.3
650.0	12461.	7.9	-8	54.	44.2	1.7
600.0	14609.	2.4	-1.1	78.	60.2	1.6
550.0	16901.	-2.2	-5.5	78.		

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

SIGNIFICANT LEVEL DATA
1690200017
CON

STATION ALTITUDE 4003.69 FEET MSL
17 JULY 84 0930 MDT
ASCENSION NO. 17

TABLE 29

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
878.6	4003.7	27.0	16.0	51.0
874.1	4152.6	26.0	14.9	50.0
850.0	4559.4	23.4	12.7	51.0
836.5	5416.1	22.1	12.4	54.0
799.3	6714.8	20.7	9.0	47.0
736.1	9032.8	14.9	6.5	57.0
710.1	10029.2	11.9	5.1	63.0
700.0	10423.5	11.0	5.5	69.0
684.8	11025.7	9.9	6.2	78.0
676.6	11355.1	9.3	2.6	63.0
659.4	12057.5	9.1	-8	50.0
633.8	13132.3	6.7	-1.9	54.0
597.5	14715.4	2.6	.2	88.0
561.0	16386.0	-4	-3.8	78.0
542.9	17246.8	-2.4	-5.4	80.0
537.4	17513.0	-2.5	-6.8	72.0
521.8	18280.4	-4.2	-7.4	78.0
512.1	18766.6	-5.4	-9.3	74.0
500.0	19394.4	-5.8	-6.5	95.0

STATION ALTITUDE 403.69 FEET "MSL
17 JULY 84 0930 MDT
ASCENSION NO. 17

UPPER AIR DATA
194020017
DON

GEODETTIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 30

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL-HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEW-POINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TA)	SPEED KNOTS	
4007.7	878.6	27.0	16.0	51.0	1011.7	677.6	300.0	300.0	8.0	1.000302
4500.0	863.6	24.9	13.9	50.4	1002.5	674.9	310.8	310.8	5.7	1.000291
5000.0	848.8	23.3	12.7	51.3	991.0	673.0	333.6	333.6	3.9	1.000284
5500.0	834.1	22.0	12.2	53.6	978.1	671.5	15.5	15.5	3.3	1.000280
6000.0	819.6	21.5	10.9	50.9	963.3	670.7	64.5	64.5	4.0	1.000272
6500.0	805.3	20.9	9.6	48.2	946.7	670.0	130.2	130.2	6.7	1.000264
7000.0	791.2	20.0	8.7	48.2	935.2	668.8	109.8	109.8	8.1	1.000258
7500.0	777.3	18.7	8.2	50.4	922.8	667.4	115.7	115.7	9.7	1.000254
8000.0	763.6	17.5	7.7	52.5	910.5	665.9	117.8	117.8	11.2	1.000250
8500.0	750.2	16.2	7.1	54.7	898.5	664.4	112.7	112.7	12.3	1.000246
9000.0	737.0	15.0	6.5	56.9	886.6	662.9	106.9	106.9	12.4	1.000242
9500.0	723.8	13.5	5.8	59.8	875.4	661.2	101.1	101.1	11.8	1.000238
10000.0	710.2	12.0	5.1	62.8	864.4	659.4	94.7	94.7	10.5	1.000234
10500.0	698.0	10.9	5.6	70.1	852.0	658.2	90.4	90.4	7.8	1.000233
11000.0	685.4	9.9	6.2	77.6	839.0	657.2	85.0	85.0	4.5	1.000232
11500.0	673.0	9.3	2.0	60.3	826.9	656.0	64.6	64.6	1.4	1.000218
12000.0	660.8	9.1	-0.5	51.1	812.8	655.6	323.7	323.7	1.0	1.000209
12500.0	648.7	8.1	-1.2	51.6	800.9	654.4	28.0	28.0	.9	1.000205
13000.0	636.9	7.0	-1.8	53.5	789.5	653.1	52.2	52.2	1.4	1.000202
13500.0	625.2	5.7	-1.0	61.9	778.2	651.7	56.7	56.7	1.8	1.000201
14000.0	613.6	4.5	-0.0	72.6	767.2	650.3	17.5	17.5	1.2	1.000201
14500.0	602.3	3.2	.6	83.4	756.3	648.9	347.3	347.3	1.1	1.000200
15000.0	591.1	2.1	.0	86.3	745.2	647.6	344.9	344.9	1.0	1.000197
15500.0	580.1	1.2	-1.3	83.3	733.9	646.4	76.1	76.1	1.4	1.000191
16000.0	569.2	.3	-2.7	80.3	722.8	645.3	99.3	99.3	2.5	1.000186
16500.0	558.6	-0.7	-4.0	78.3	711.9	644.1	109.9	109.9	3.5	1.000182
17000.0	548.0	-1.8	-4.9	79.4	701.6	642.7	120.5	120.5	3.2	1.000178
17500.0	537.7	-2.5	-6.6	72.4	690.2	641.7	124.4	124.4	2.9	1.000173
18000.0	527.4	-3.6	-7.2	75.8	679.9	640.5	115.5	115.5	2.8	1.000170
18500.0	517.4	-4.7	-8.3	76.2	669.9	639.0				1.000166
19000.0	507.5	-5.6	-8.1	81.9	659.0	638.1				1.000164

STATION ALTITUDE 4003.69 FEET MSL
17 JULY 84 0930 MDT
ASCENSION NO. 17

MANDATORY LEVELS
1990200017
NON

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 31

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4056.	23.4	12.7	51.		330.9	4.0
800.0	6685.	20.7	9.1	47.		104.3	7.3
750.0	8503.	16.2	7.1	55.		112.6	12.3
700.0	10413.	11.0	5.5	69.		91.3	8.3
650.0	12435.	8.2	-1.2	51.		21.0	.8
600.0	14587.	2.9	.7	86.		346.3	1.1
550.0	16885.	-1.6	-4.7	79.		118.1	3.2
500.0	19357.	-5.8	-6.5	95.			

DATE
ILME